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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,764	01/16/2004	Akira Yamaguchi	09792909-5771	6420
26263 7590 02/18/2010 SONNENSCHN NATH & ROSENTHAL LLP P.O. BOX 061080 WACKER DRIVE STATION, WILLIS TOWER CHICAGO, IL 60606-1080				
EXAMINER DOVE, TRACY MAE				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
02/18/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/758,764

Applicant(s)

YAMAGUCHI ET AL.

Examiner

TRACY DOVE

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the communication filed on 11/24/09.

Applicant's arguments have been considered, but are not persuasive. Claims 1-21 are pending. Claims 8-15 are withdrawn for being directed to a nonelected invention. This Action is FINAL, as necessitated by amendment.

Claims Analysis

Claim 1 recites the phrase "a gas adsorbing carbon material formed of a carbonaceous material", claim 2 recites "said gas adsorbing carbon material carbonaceous material", claim 3 recites "said gas adsorbing carbon material", claims 4 and 5 recite "said carbonaceous material" and "said gas adsorbing carbon material", claim 20 recites "said carbonaceous material", which all appear to refer to the same element of the claimed invention. Examiner suggests the claims be amended such that a single term is used to describe the above claimed element. Examiner further suggests the term "gas adsorbing carbonaceous material" be used.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 and 16-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. All claims should be amended such that each limitation has proper antecedent basis.

Claim 1 recites the limitation "said battery device" after "a film-shaped exterior material housing therein". There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites "includes one or both of carbon black and activated carbon", which is improper group language. Furthermore, claim 1 requires carbon black so claim 2 appears to improperly broaden claim 1.

Claims 4, 5 and 20 recite the gas adsorbing carbonaceous material is added to the cathode mixture. However, claim 1, as amended, requires the gas adsorbing carbonaceous material to be contained in the anode mixture.

Claim 7 recites "said solid electrolyte is a gel electrolyte", which improperly broadens claim 1. A solid polymer electrolyte does not contain liquid solvent whereas a gel electrolyte is part solid polymer electrolyte and part liquid solvent.

Claim 19 recites "the non-aqueous solvent", which lacks proper antecedent basis. See also rejection of claim 7 the states a solid electrolyte, by definition, does not contain a liquid electrolyte solvent. Further, claim 19 recites "carbonate or ethylene carbonate", which is improper because ethylene carbonate is narrower than carbonate.

In claim 20 the last "and" should be deleted. The term "and/or" is indefinite.

To the extent the claims are understood in view of the 35 USC 112 rejections above, note the following prior art rejections.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7 and 17-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi et al., US 5,807,645.

Takeuchi teaches an electrode comprising acetylene black or carbon black carbonaceous diluent having a surface area less than about 100 m²/g mixed with graphite and a charge transfer active material to provide an electrode active admixture. The carbonaceous diluent increase the charge transfer capability within the electrode while exhibiting diminished cell swelling (abstract). The electrode is contained in a nonaqueous electrochemical cell having a cathode, an anode, a separator and a nonaqueous electrolyte. Both the anode and the cathode include charge transfer active materials (3:66-5:7). The conductive diluent is preferably present in the electrode active admixture in an amount of 0.5-2 wt% (4:43-51). The separator may be polyvinylidene fluoride (polymer material) (5:8-19). The electrolyte may include a conductive salt and a nonaqueous solvent. The salt may be LiPF₆ or LiBF₄ (6:6-15) and the solvent may be a carbonate (5:53-6:5). The cell is contained within a metal casing (6:36-54).

Thus the claims are anticipated.

Claims 1-5, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitsufumi et al., JP 09-035718.

Mitsufumi teaches battery comprising an anode having an anode mixture containing an anode active material, and a cathode having a cathode mixture containing a cathode active material, said anode and the cathode being layered together via a separator (0002-0033; figure 1 and the corresponding text); a solid electrolyte including a polymer material and an electrolyte salt contained therein (0028-0029 and 0035); and a film-shaped exterior material housing therein said battery and the solid electrolyte (see figure 1 and 0030 and 0040); wherein a gas adsorbing carbon material formed of a carbonaceous material having a specific surface not less than $30 \text{ m}^2/\text{g}$, said gas adsorbing carbon material being added to said anode mixture for adsorbing a gas evolved within the battery (abstract; 0023-0026). Carbon black is activated carbon as it absorbs gasses and is noted in an amount of 0.1-4% in the anode (0023-0026). Ketchien black and furnace black are taught in paragraph 0025. Ketchien black and Ketjen black are the same material as noted above. The carbon material is taught to have a specific surface area of not less than $700 \text{ m}^2/\text{g}$.

Thus the claims are anticipated.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi et al., US 5,807,645 in view of Bannai, US 6,503,656 and/or EP 1063713.

Takeuchi teaches non-aqueous electrolyte batteries, as noted above. The battery may be housed in a cylindrical or square shaped housing. Takeuchi does not teach the battery has a laminate film of a metal layer and a resin layer as an exterior casing material. Bannai et al. (EP 1,063,713) teaches a battery to have a laminate film of a metal layer and a resin layer as an exterior casing material (see the claims, 0021-0022). It would have been obvious to one of ordinary skill in the art at the time the invention was made to house the battery of Takeuchi in a casing of a laminate film having a metal layer and a resin layer in order to provide a durable, light-weight casing that has low permeability due to the metal layer and high sealability due to the resin layer (see '713, 0002-0004.) The artisan would have found the claimed invention to be obvious in light of the teachings of the references.

Furthermore, the skilled artisan would have known that batteries generally have an outer resin layer label that identifies the battery.

Response to Arguments

Applicant's arguments filed 11/24/09 with regard to the amended claims have been fully considered but are not persuasive.

Applicant argues Mitsufumi teaches the conducting agent has a surface area of more than $700 \text{ m}^2/\text{g}$, whereas the claims require that the surface area of the gas adsorbing material is $30 \text{ m}^2/\text{g}$ or less. However, the claimed invention recites not less than $30 \text{ m}^2/\text{g}$. Therefore, this argument is not persuasive.

Applicant argues Takeuchi teaches the carbonaceous material is added to the cathode active mixture, as opposed to the anode active mixture. However, Takeuchi is

not limited to any particular embodiment. Takeuchi broadly teaches the acetylene black or carbon black carbonaceous diluent is added to an electrode and is mixed with a charge transfer active material to provide an electrode active admixture (abstract). Takeuchi teaches the carbonaceous diluent may be added to the anode or the cathode.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRACY DOVE whose telephone number is (571)272-1285. The examiner can normally be reached on M & TU (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TRACY DOVE/
Primary Examiner, Art Unit 1795
February 12, 2010